

## Remarks

Claims 1 and 8 currently are pending and subject to examination. The Applicants respectfully request that the Examiner reconsider the above-captioned patent application in view of the following remarks.

### 1. Rejections under 35 U.S.C. § 103(a)

#### a. Claims 1 and 8

The Examiner rejected claims 1 and 8 under 35 U.S.C. § 103(a), as allegedly being obvious in view of Kieser et al. (U.S. Pat. No. 5,746,051). The Applicants respectfully traverse this rejection as follows.

In order for the Examiner to establish a prima facie case for obviousness, three (3) criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to those of ordinary skill in the art, to modify the primary reference as the Examiner proposes. Second, there must be a reasonable expectation of success in connection with the Examiner's proposed combination of the references. And third, the references must disclose or suggest all of the claim limitations. MPEP 2143.

The Applicants' independent claim 1 describes "a plasma reactor . . . wherein the generating means comprises: a pair of electrodes facing each other in the longitudinal direction; and a dielectric material positioned between the pair of electrodes, wherein a first predetermined gap  $d_1$  is formed between a first electrode of the pair of electrodes and the dielectric material, and a second predetermined gap  $d_2$  is formed between a second electrode of the pair of electrodes and the dielectric material, and wherein an amount  $a$  at the center of the dielectric material in the width direction, is offset from the

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midpoint of the distance between the pair of electrodes and satisfies the formula  $0 \leq a \leq 0.5 \times (d1+d2 / 2)$ ." As such, Applicants claim a specific placement of the dielectric material from the midpoint distance between the pair of electrodes.

In contrast to the Applicants' invention as set forth in claim 1, Kieser describes insulating plates between a pair of electrodes with no further guidance on placement. The Examiner states that "[s]ince each of the dielectric plate[s] is placed between a pair of electrodes of opposite polarities, their placement satisfies the recited formula. The Applicants respectfully submit that mere placement between the pair of electrodes does not satisfy the formula in claim 1. Claim 1 specifically recites the placement of the electrodes in relation to the dielectric material such that the placement satisfies the formula  $0 \leq a \leq 0.5 \times (d1+d2 / 2)$ . Kieser does not disclose or suggest satisfying such a particular placement.

Moreover, Kieser shows embodiments of the invention in figures 1-2 and a modified device in figures 3-4. In figures 1-2, **insulating plates** (64) are provided which are spaced from adjacent paired electrodes (62). In another embodiment shown in figures 3-4, in place of the insulating plates (64) used in figures 1-2, dielectric layers (74) are used and **applied as a thin layer onto** adjacent electrodes (72). In explaining the modified device in figures 3-4, Kieser refers to "reversing the above principle", (See, Column 3 Line 37). Kieser teaches that when a dielectric layer is to be used between a pair of electrodes, the dielectric layer should be applied directly onto an adjacent electrode (72). This is clearly shown in figures 3 and 4 where the dielectric layer (74) is applied to one side of an adjacent electrode (72).

Kieser suggests that when a plate is provided between a pair of electrodes with gaps between the plate and respective electrodes, the plate should be an insulating plate, whereas when a dielectric material is used, it should be applied as a thin layer onto one of a pair of electrodes.

In contrast, claim 1 claims a dielectric material positioned between a pair of electrodes with respective gaps therebetween. Kieser does not disclose or suggest at least the feature of using a dielectric material positioned between the electrodes with respective gaps as claimed. Instead, the Applicants submit that Kieser teaches away from claim 1 by teaching that the dielectric material should be applied directly to the electrode as a thin layer.

The Applicants respectfully request that the Examiner withdraw the anticipation rejection of claim 1 at least for this combination of reasons.

Claim 8 depends from allowable claim 1. Therefore, the Applicants' respectfully request that the Examiner withdraw the rejection of claim 8 at least for this reason.

### **CONCLUSION**

Applicants respectfully submit that the above-captioned patent application is in condition for allowance, and such action is earnestly solicited. If the Examiner believes that an in-person or telephonic interview with Applicants' representatives would expedite the prosecution of the above-captioned patent application, the Examiner is invited to contact the undersigned attorney of records. Applicants believe that no fees are due as a result of this response to the outstanding Office Action in the above-captioned patent application. Nevertheless, in the event of any variance between the fees determined by Applicants and those determined by the

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U.S. Patent and Trademark Office, please charge any such variance to the  
undersigned's Deposit Account No. 01-2300, **referencing Attorney Docket No.**  
**107348-00102.**

Respectfully submitted,



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